SONY

3-753-136-22(1)

Graphic Equalizer

SEQ-411

Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.

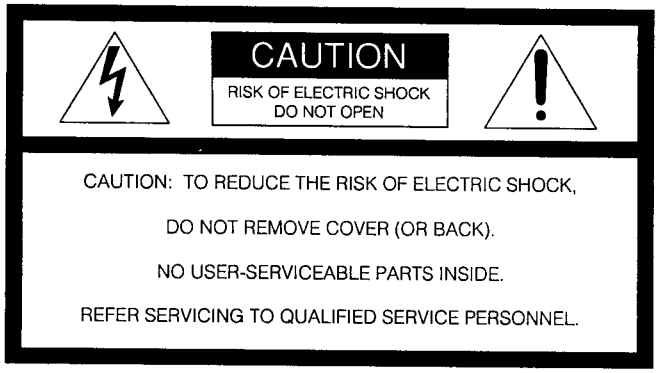
Owner's Record

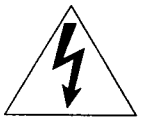
The model and serial numbers are located at the rear. Record the serial number in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. SEQ-411 Serial No._____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

* The graphical symbols are on the rear enclosure.

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NOTICE FOR THE CUSTOMERS IN THE UNITED KINGDOM

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows: The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black. The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red. Do not connect either wire to the earth terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.

Precautions

On safety

The unit is not disconnected from the AC power source as long as it is connected to the wall outlet, even if the unit itself has been turned off.

- Before operating the unit, be sure that the operating voltage of your unit is identical with that of your local power supply.
- The name plate indicating operating voltage, power consumption, etc. is located on the rear of the unit.
- Should any solid object or liquid fall into the unit, unplug it and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.

On installation

- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Good air circulation is essential to prevent internal heat buildup in the unit. Place the unit in a location with adequate air circulation. Do not place the unit on a soft surface.

On cleaning the cabinet

Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

On repacking

Do not throw away the carton and the packing material. It makes an ideal container to transport the unit in.

For the customers in the U.S.A.

For detailed precautions, see the leaflet "IMPORTANT SAFEGUARD"

If you have any question or problem concerning your unit, please consult your nearest Sony dealer.

Connections

Connection Notes

- Connect the AC power cord last. Make sure power is off.
- The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.
- Cord plugs and jacks are color coded. Red plugs and jacks are for right channel (R) and white ones for the left channel (L).

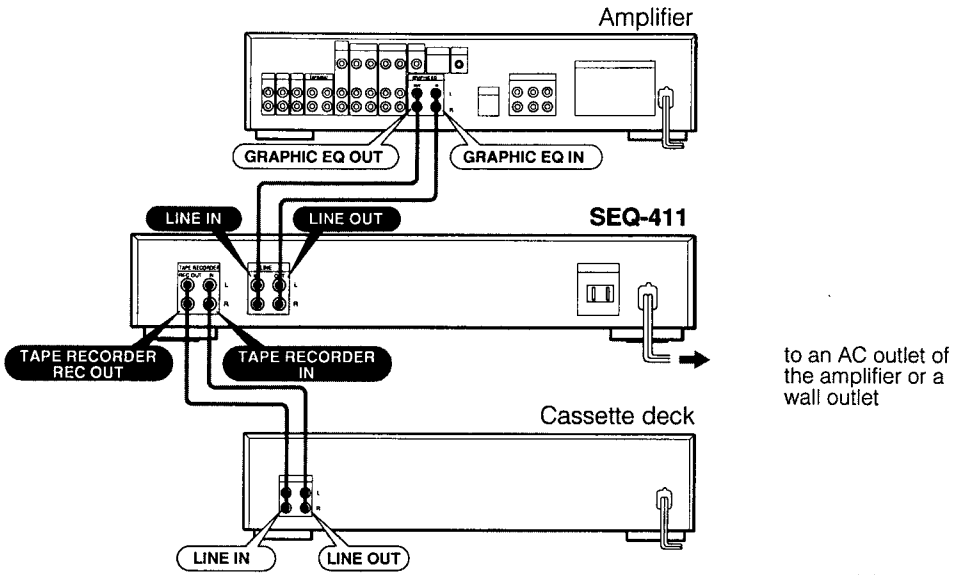
AC OUTLET

Use the AC outlet to power audio component whose power consumption is less than the wattage indicated on the AC OUTLET. The outlet is not controlled by the POWER switch. Even when the apparatus is switched off, "UNSWITCHED" socket outlet remains live unless mains plug is pulled out from the wall outlet.

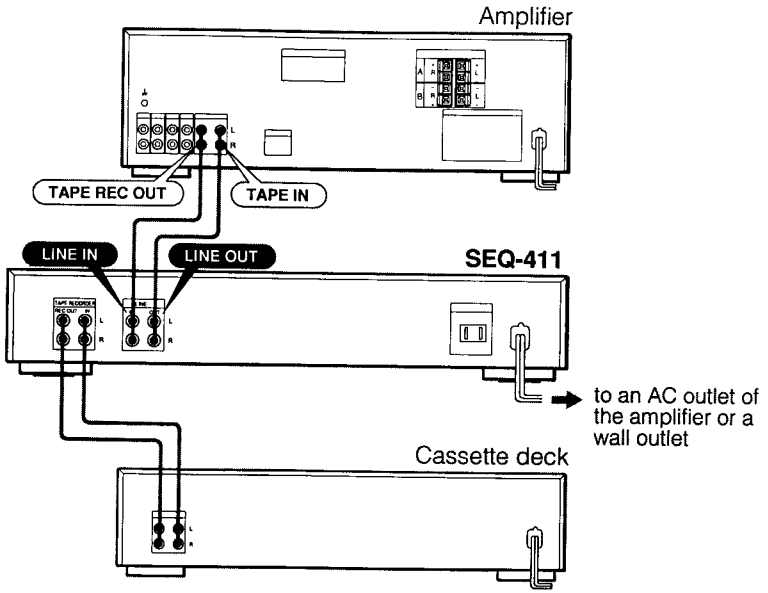
CAUTION

Do not connect any electrical home appliances such as an electric iron, fan, TV or other high wattage equipment to the AC outlet.

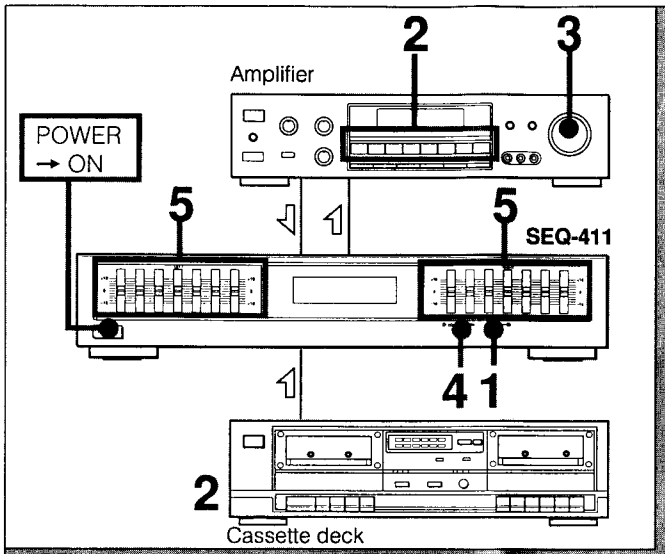
Connecting to GRAPHIC EQ Jacks of Amplifier



Connecting to TAPE Jacks of Amplifier Which Has the Tape Monitor Function



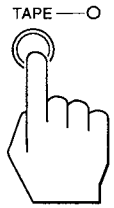
Equalizing Sound



1 Select the input signal to be equalized.

For the program source from the amplifier:
Press to go off the TAPE indicator.

Note
When connecting to TAPE jacks of the amplifier, set the tape monitor switch to ON.

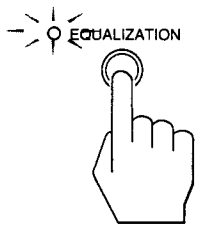


For the tape sound from the cassette deck:
Press to light up the indicator.

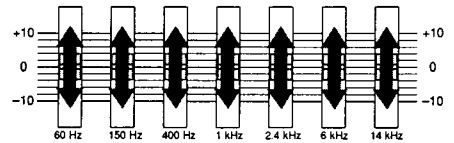
2 Select the desired source with the amplifier and play the program source, or play back a tape on the cassette deck.

3 Adjust the volume level of the amplifier.

4 Set the EQUALIZATION button to on.
The indicator lights up.

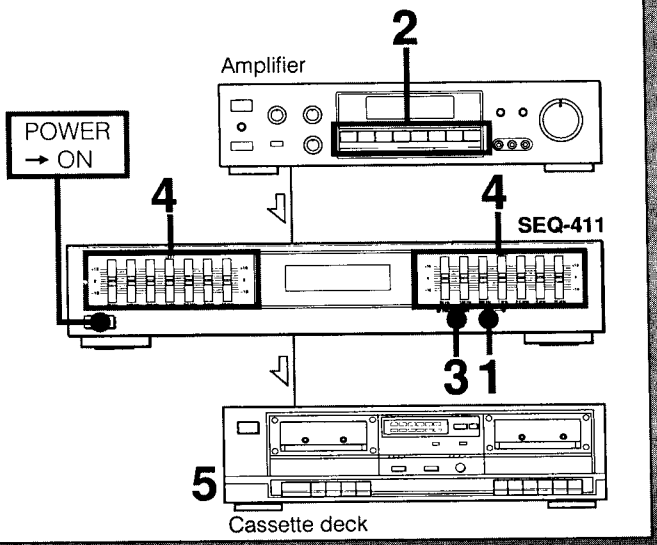


5 Adjust equalizing level.



When not equalizing the sound
Press the EQUALIZATION button so that the indicator goes off. The input signal is directly output to both LINE OUT and TAPE RECORDER REC OUT jacks.

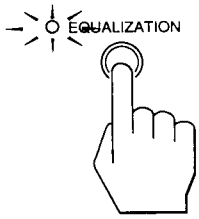
Recording the Equalized Sound



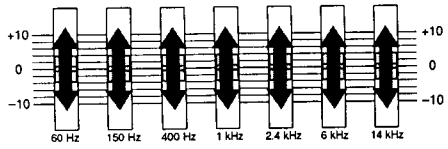
1 Press to go off the indicator.

2 Select and play the desired source.

3 Press the EQUALIZATION button so that the indicator lights up.



4 Adjust equalizing level.



5 Set the cassette deck to recording mode.

To record sound without equalizing effect

Press the EQUALIZATION button so that the indicator goes off.

Frequency Coverage of Each Equalizer Control

Adjustable frequency bands and the effect of level adujustment

60 Hz: Lowering the level will cut the ventilation noise of a music hall, hum of electronic instruments, boomy bass, etc. Raising the level will reinforce the heavy bass part of a pipe organ or add depth to the bass sound.

150 Hz: Boosting or cutting the normal bass.

400 Hz: Increasing or decreasing the power, spaciousness and warmth of the sound.

1 kHz: Providing more presence for vocals, and moving the sound forward or into the background.

2.4 kHz: Lowering the level will reduce stridency, and raising will make the base sound brighter.

6 kHz: Increasing or decreasing the brightness of the sound; for examble, raising the level will make the violin sound silky smooth.

14 kHz: Changing the general atmosphere rather than the sound itself. Raising the level will highlight the delicate quality of instrumental sound, and lowering will reduce high-frequency noise such as the resonant peak of a cartridge tape hiss, etc.

Checking the equalization results

Press the EQUALIZATION button again to off (released position).
The equalizer circuit is bypassed, and you can hear the sound without equalization.
By switching the EQUALIZATION button on and off, compare the results.
The spectrum analyzer can be used to visually confirm the need for, and effect of, equalizer adjustment.

Specifications

Inputs — LINE IN: Phono jacks, 245 mV (–10 dBs), 50 kohms
TAPE IN: Phono jacks, 245 mV (–10 dBs), 50 kohms

Outputs — LINE OUT: Phono jacks, 245 mV (–10 dBs), Load impedance: more than 10 kohms
TAPE REC OUT: Phono jacks, 245 mV (–10 dBs), Load impedance: more than 10 kohms

Graphic equalizer
Boost/cut range: ±10 dB
Center frequencies: 60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 14 kHz

Frequency response (with EQUALIZATION on)
LINE IN: 20 Hz to 40 kHz $^{+0}_{-1.5}$ dB

Harmonic distortion
LINE IN: Less than 0.008% (at 1 kHz, 1 V output)

Signal-to-noise ratio (with EQUALIZATION on)
LINE IN: Better than 100 dB (A network, 1 V output)

Power requirements
U.S.A. model: 120 V AC, 60 Hz
U.K. model: 240 V AC, 50/60 Hz
Australian model: 240 V AC, 50/60 Hz

Power consumption
5 W

AC outlet — U.S.A. model: 1 unswitched, 120 W max.
U.K. model: 1 unswitched, 100 W max.

Dimensions — Approx. 430 x 80 x 265 mm (w/h/d) (17 x 3¼ x 9½ inches)

Weight — Approx. 2.5 kg (5 lb 8 oz)

Accessories supplied
Audio connecting cord (2)

Design and specifications subject to change without notice.

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

Troubleshooting

Before going through the check list below, first refer back to the connection and operating procedures.
Should any problem persist after you have made these checks, consult your nearest Sony dealer.

Trouble	Remedy
No audio even when the POWER switch is turned on.	• Check if the power cord is disconnected. • Check if the connecting cord is disconnected. • Check the TAPE button setting.
No equalization.	• Check if the EQUALIZATION button is set to off (the indicator goes off). • Check the connections.
The program source connected to the amplifier cannot be recorded.	• Check if the TAPE button is set to on (the indicator lights up).

Sony Corporation Printed in Japan